Memorandum for Holders
USIB-D-71.6/7
30 September 1971

UNITED STATES INTELLIGENCE BOARD

MEMORANDUM FOR HOLDERS OF USIB-D-71.6/7

SUBJECT : Fourth Annual Report of the Intelligence Information Handling Committee

REFERENCE : USIB-D-71.6/7, 9 August 1971

Annex B (Education and Training) of the Fourth Annual Report of the Intelligence Information Handling Committee (IHC) is circulated herewith to all holders of the reference document. This Annex supplements Chapter VIII, the Education and Training Section of the subject report.

25X1A

Executive Secretary

Attachment

GROUP I
Excluded from automatic
downgrading and
declassification

Attachment
Memorandum for Holders
USIB-D-71.6/7

ANNEX B
IHC-AR-4
30 September 1971

U N I T E D S T A T E S I N T E L L I G E N C E B O A R D

INTELLIGENCE INFORMATION HANDLING COMMITTEE

MEMORANDUM FOR: The United States Intelligence Board

SUBJECT : Annex B, Education and Training Report, to the Intelligence Information Handling Committee (IHC) Fourth Annual Report, Fiscal Year 1971

REFERENCE : USIB-D-71.6/7, Subject: Fourth Annual Report of the Intelligence Information Handling Committee, 9 August 1971

Enclosed herewith is the Education and Training Report, Annex B to the IHC Fourth Annual Report, covering the community information science training activity for FY-71. This report supplements Chapter VIII, Education and Training, of Reference above.

[redacted]

25X1A

Chairman

Att

GROUP I
Excluded from automatic downgrading and declassification

Confidential

USIB
UNITED STATES
INTELLIGENCE
BOARD

Intelligence Information Handling Committee

EDUCATION AND TRAINING REPORT
(July 1970 - June 1971)

Confidential

Annex B
IHC-AR-4
1 July 1971

Approved For Release 2002/07/30 : CIA-RDP79M00097A000100080004-0

ANNEX B
IHC-AR-4
1 July 1971

U N I T E D S T A T E S I N T E L L I G E N C E B O A R D

INTELLIGENCE INFORMATION HANDLING COMMITTEE

Annex B (Education & Training) to the Fourth Annual Report

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A. Introduction

1. Scope

This is the fourth annual Information Science Education and Training Report. It is issued as Annex B to the Fourth Annual Report of the Intelligence Information Handling Committee. This report covers the information science training received by personnel of the intelligence community during Fiscal Year 1971 (FY-71). Some FY-70 statistics are included in this report in order that a comparison can be made with the FY-71 figures. The call for data used in preparing this report was contained in IHC-D-113.5/11 dated 18 June 1971.

2. Explanation of Terms and Content of the Report

The statistical information contained in this report is structured to show courses and students by source, category, and number.

a. Courses

Self-explanatory

b. Students

The statistics show a grouping of the students by four grade levels (clerical, junior, mid-career, and senior) and what percent of the total student grouping is military. The number of students are further shown by classification as user or system personnel as defined below:

(1) User Personnel

Users are defined as all personnel other than operators of information handling systems and support personnel.

This includes executives, supervisors, etc., other than those assigned to intelligence information handling organizations.

(2) System Personnel

System personnel are system operators and system support personnel. They include all personnel assigned to or being trained for assignment to an intelligence information handling organization, such as: CIA's Office of Computer Services, Central Reference Service, and other ADP and information handling activities; NSA's Office of Machine Processing; State's Automated Data Processing Division; DIA's Automatic Data Processing Services Division (DS-5); and DoD IDHS elements.

c. Sources

The sources are: universities, own agency, other government agencies, and manufacturers, contractors, and professional societies.

d. Category

The categories of courses are: general orientation, system analysis and design, computer programming, application, and methods and techniques. (Discussion and examples of these may be found in last year's Education and Training Report, Annex B to IHC-AR-3, dated 1 July 1970.)

e. Number

Self-explanatory

B. Statistics

1. Trends

A total of 7,048 students from the intelligence community

participated in information science training during FY-71 as compared to 6,116 students in FY-70. Chart 1 shows student comparison by agency for FY-70 and FY-71. The 7,048 students for FY-71 includes 92 full-time university students for whom a distinction between user and system personnel was not made. Chart 2 shows the total student enrollment by grade level as well as by user and system personnel for FY-70 and FY-71. Army did not provide a breakdown between "user" and "system" personnel. In order to approximate such a breakdown, Air Force percentage figures were applied to the total figure provided by Army. CIA did not break down the professional category figures between "user" and "system" personnel. However, the totals were broken down so a percentage developed from the total figures was applied to the professional categories statistics.

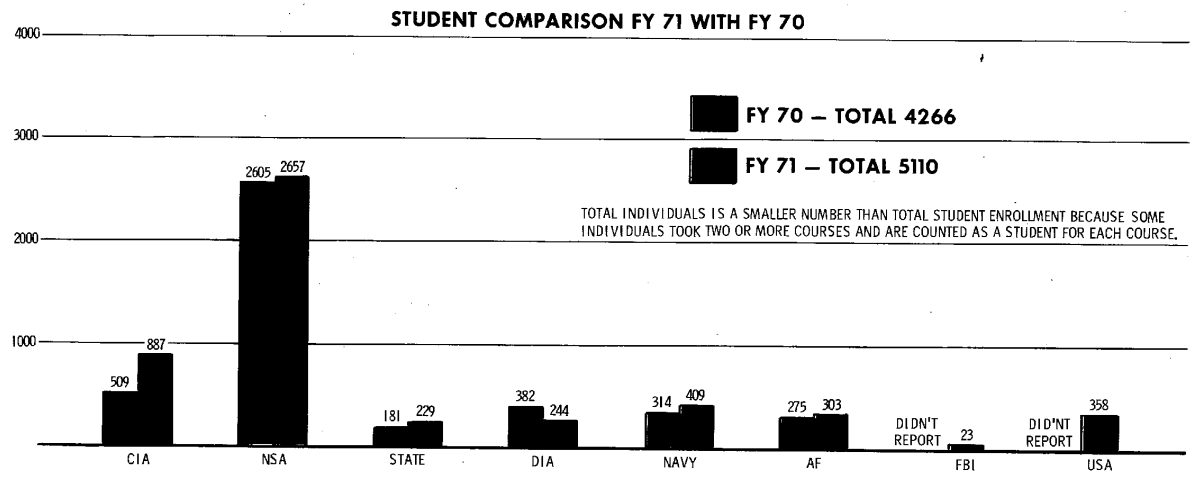
2. Courses and Students

a. Summary

A total of 698 information science courses were taken by members of the intelligence community in FY-71 compared to 660 taken in FY-70. Chart 3 shows the distribution of students by source and category and the distribution of courses by source and category for FY-70 and FY-71. Chart 4 shows the distribution of students by agency and source for FY-70 and FY-71. Table 1 shows a summary of courses by source and category for FY-71.

b. Specific Data

Statistical information furnished by members of the intelligence community has been summarized and presented in the preceding pages.



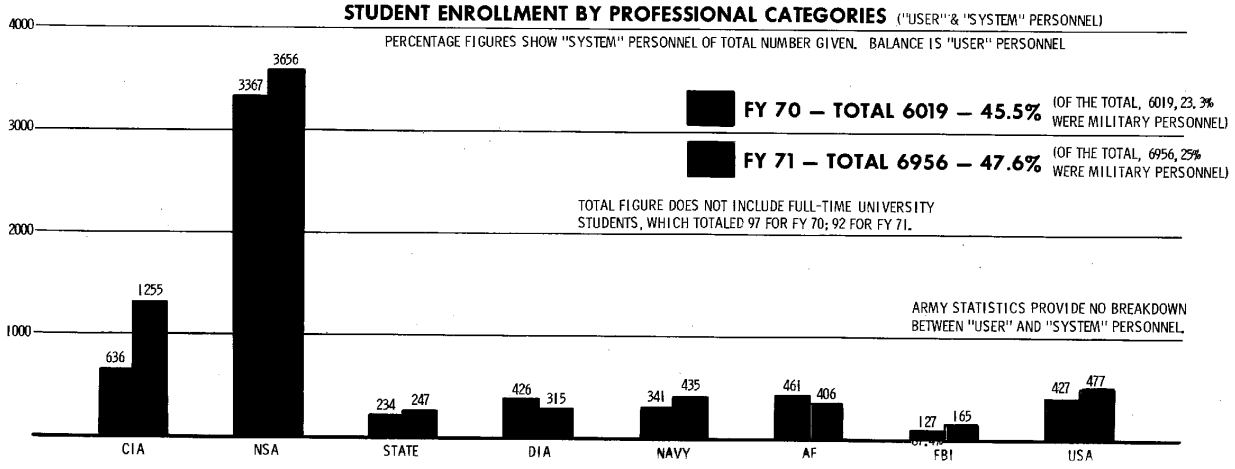


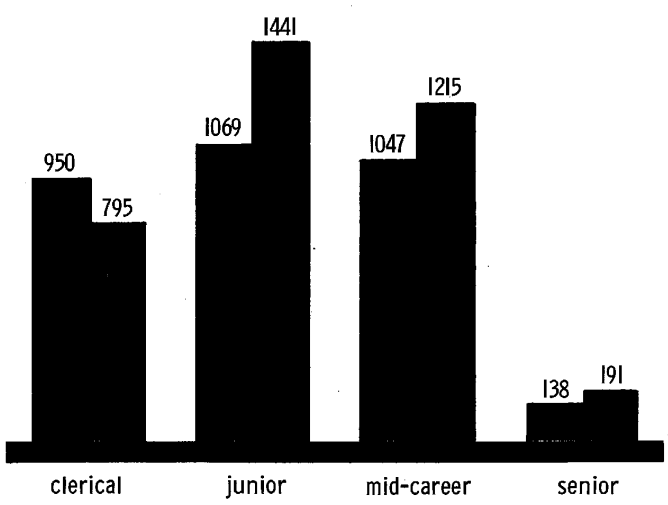
CHART 1

Approved For Release 2002/07/30 : CIA-RDP79M00097A000100080004-0

STUDENT COMPOSITION BY PROFESSIONAL LEVELS

fiscal year 1970 1971

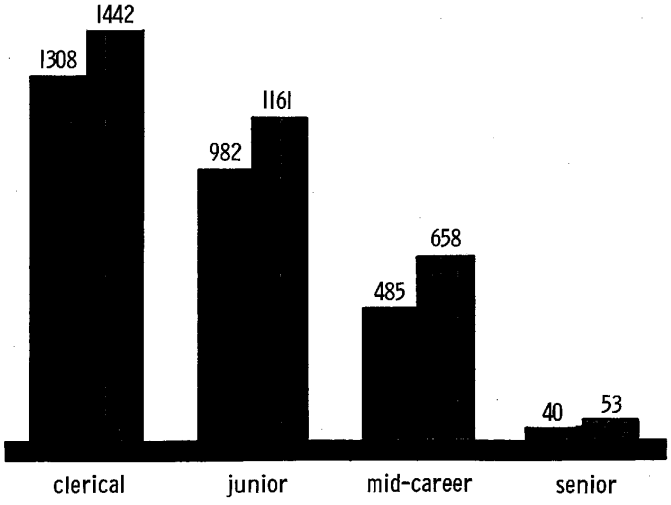
CLERICAL GS 1–6 E 1–6	MID CAREER GS 12–14 03–05
JUNIOR GS 7–11 01–2 E7–9	SENIOR GS 12 AND UP 06 AND UP



USER PERSONNEL

TOTAL 1970 3204

TOTAL 1971 3642



SYSTEM PERSONNEL

TOTAL 1970 2815

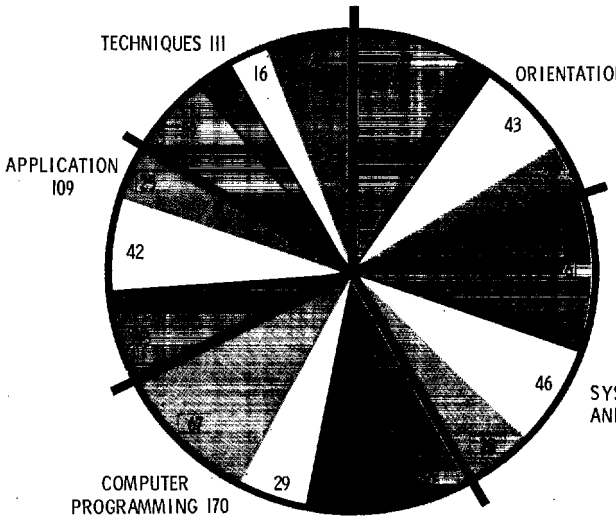
TOTAL 1971 3314

TOTAL USER & SYSTEM PERSONNEL
1970—6019 1971—6956

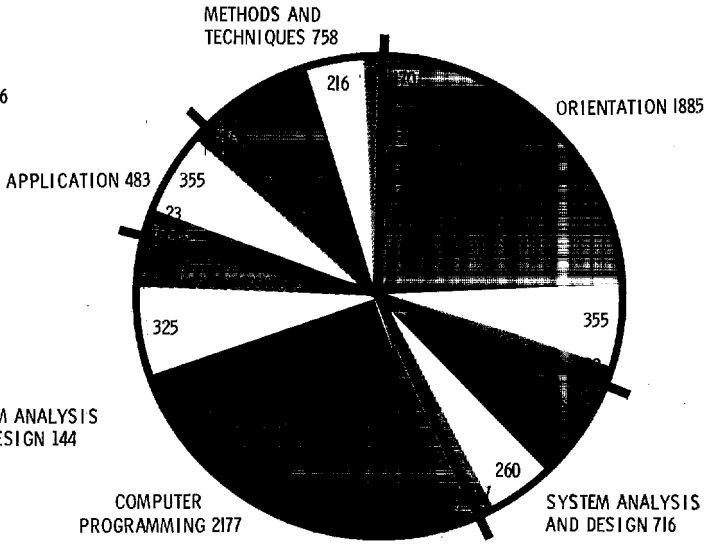
CHART 2

COURSES AND STUDENTS BY SOURCE AND CATEGORY

TOTAL COURSES FY-70 660



TOTAL STUDENTS FY-70 6019

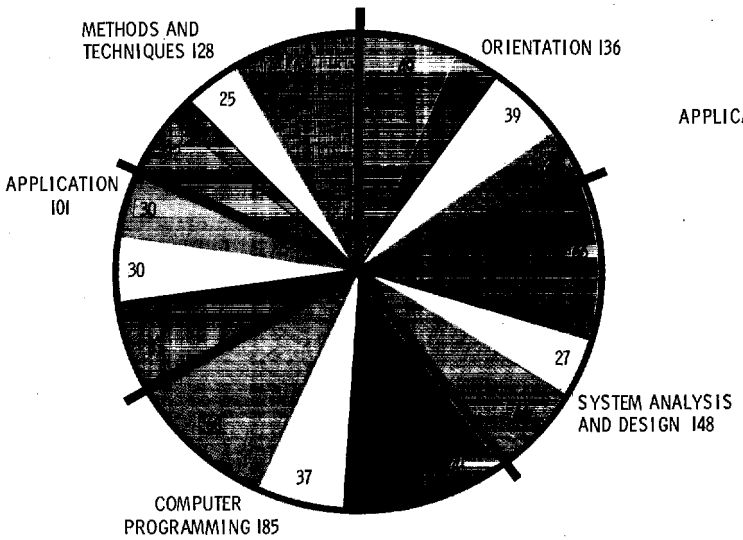


excluding 97 full-time university students

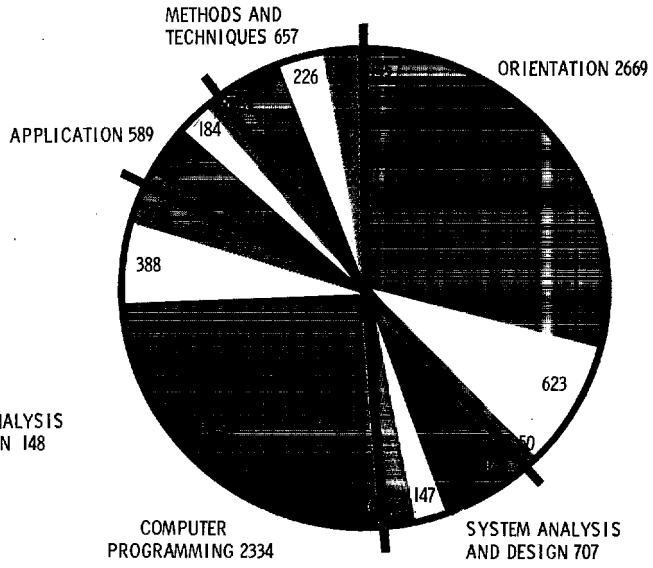
SOURCES OF COURSES

- PART TIME UNIVERSITIES
- OWN AGENCIES
- OTHER AGENCIES
- MANUFACTURERS AND CONTRACTORS

TOTAL COURSES FY-71 698



TOTAL STUDENTS FY-71 6956



excluding 824 full-time university students

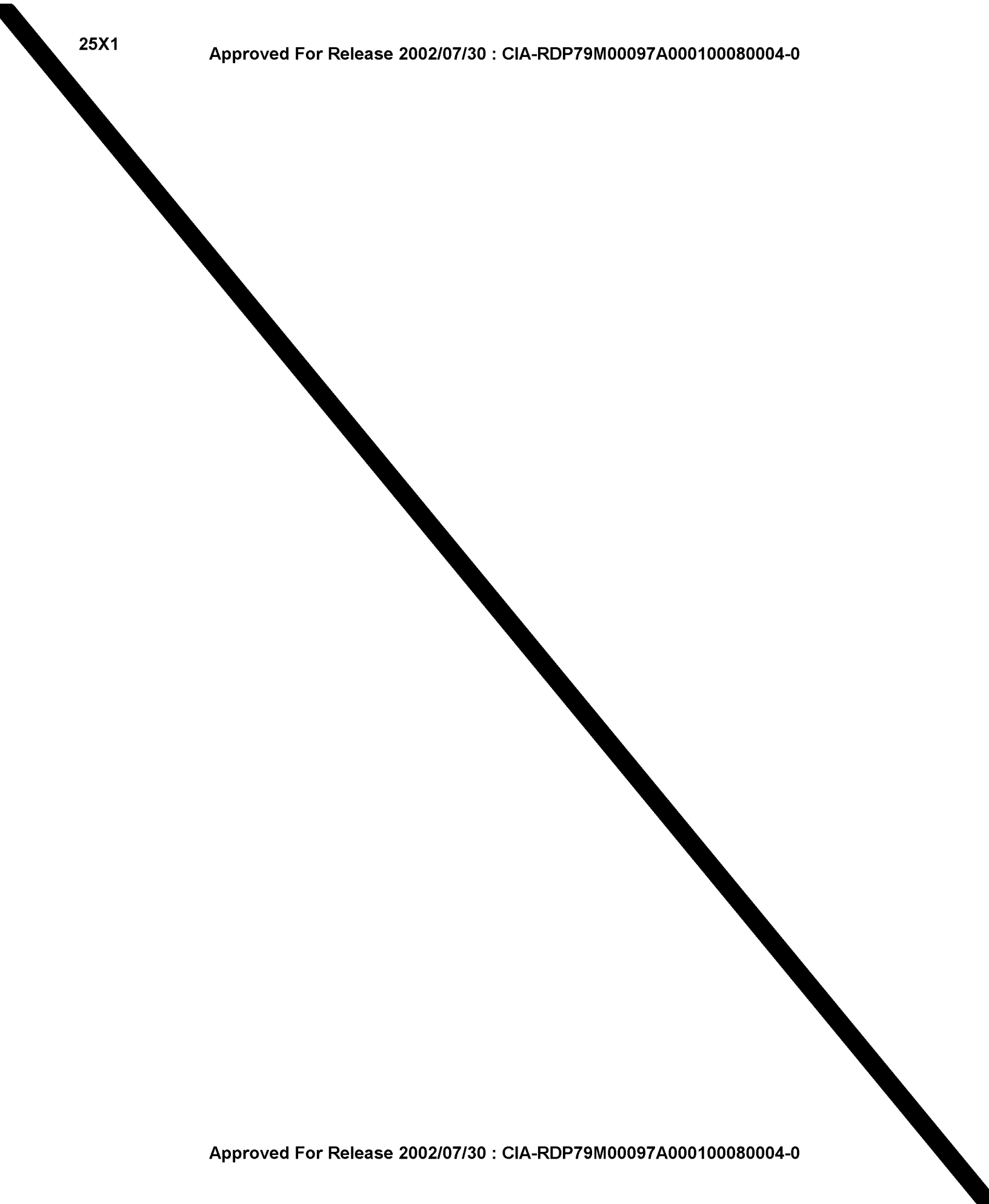


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TABLE 1. SUMMARY OF COURSES BY SOURCE AND CATEGORY FOR FY-71

	CIA	NSA	STATE	DIA	ARMY	NAVY	AF	FBI	ALL ORG
Source									
University*	57 30%	94 40%	14 25%	26 31%	0	30 36%	0	0	221 32%
Own Agency	22 12%	43 18%	2 4%	9 11%	0	0	0	9 69%	85 12%
Other Gov't. Agencies	32 17%	23 10%	23 41%	18 21%	20 100%	24 29%	18 100%	0	158 23%
Manufacturers	79 41%	74 32%	17 30%	31 37%	0	29 35%	0	4 31%	234 33%
TOTAL	190 100%	234 100%	56 100%	84 100%	20 100%	83 100%	18 100%	13 100%	698 100%
Category									
Orientation	34 18%	47 20%	19 34%	18 21%	1 5%	13 15%	2 11%	2 15%	136 19%
System	33 17%	48 21%	19 34%	20 24%	5 25%	20 24%	0	3 23%	148 21%
Programming	48 25%	54 23%	11 20%	27 32%	6 30%	24 30%	9 50%	6 46%	185 27%
Application	25 13%	36 15%	4 7%	11 13%	6 30%	14 17%	4 22%	1 8%	101 14%
Methods & Techniques	50 27%	49 21%	3 5%	8 10%	2 10%	12 14%	3 17%	1 8%	128 18%
TOTAL	190 100%	234 100%	56 100%	84 100%	20 100%	83 100%	18 100%	13 100%	698 100%

* Full-time university students not included.

Specific data on each of the above mentioned categories are available from the IHC Support Staff.

C. Progress in Information Science Education Programs -- Emphasizing Changes

This section contains information on action taken in FY-71 by members of the intelligence community to improve their information science education programs.

1. CIA

The Training Staff of the Office of Computer Services offered 12 new courses in FY-71 on various aspects of computer programming and ADP Orientation. The Office of Economic Research (OER) developed five different courses involving econometric methods. A total of 260 OER students attended these courses in contrast to 65 from that office who attended courses offered outside CIA. Eighty-six Central Reference Service students were provided training by a broad spectrum of courses offered by a number of different sources. The Office of Strategic Research sponsored a two day course on the Arsenal Exchange Model, given by Martin-Marietta Corporation.

2. NSA

a. National Cryptologic School

In FY-71, the National Cryptologic School constructed curricula in all appropriate disciplines. Many of them include courses in computers and their applications to guarantee awareness of the use and possibilities of computers. Three curricula are particularly related to information science.

(1) Computer Science brings together existing courses at all levels to develop professional programmers, data systems analysts, and managers of computer operations. Associated courses in mathematics, operations research, and fields of agency applications are also included.

(2) Computer Operator offers an opportunity for structured growth of para-professionals through a selection from 27 courses in six levels of difficulty and generality.

(3) SIGINT Reporting covers training in research and writing together with background information on military doctrine, area studies, cryptologic disciplines, and computer orientation.

b. Career Development Program

(1) The curricula above relate closely to portions of the NSA Career Development Program. During the year, 124 people were certified as professionals in Data Systems, and 222 as professionals in Special Research. Certification of Computer Operators has not yet been formalized.

(2) The SPECOL language, designed to allow analysts to retrieve information from machinable files, has been taught to NSA analysts who use the language to query about 40 NSA files. Training has also been given outside NSA to people working about 60 other files.

(3) NSA trained 50 Army Security Agency men in computer operations in two 10-week sessions. Graduates qualified as MOS 74E (Computer Operator) and were assigned to NSA and ASA for duty.

3. Department of State

The Department's training program for FY-71 in information science was concentrated in two areas: (1) in "user" orientation, largely at the mid-career level, and (2) in on-the-job and manufacturers' training of systems personnel in automatic data processing and computer programming. A one-week course on Quantitative Methodology in Political Science was given at the Foreign Service Institute (FSI) in FY-71. At least one more iteration will be presented in FY-72. Dr. Edwin Fogelman submitted a five-page report on Training in Quantitative Political Analysis to the FSI in July 1971

4. DIA

a. Information Science Training

During FY-71, DIA sent 10 professionals for a full academic year and one professional for a half year of study in information science at various universities. All other training programmed for the fiscal year was accomplished with the exception of that programmed for commercial facilities. This training was curtailed due to the cutback in the budget. No new information science training programs were initiated in FY-71.

b. Automated Data Base Seminars

A series of eight Automated Data Base Seminars were presented to 240 employees during FY-71. These seminars introduced the substantive intelligence user to the DIA Automated Data Bank. A new feature added

during FY-71 was a presentation on the DIA On-Line System (DIAOLS), its capabilities, components, and use.

5. Army

The number of U.S. Army Intelligence personnel instructed in information science increased slightly during FY-71. However, there was a decrease in the number of Army officers taking full-time university courses in information science (22 in FY-70, 11 in FY-71).

6. Navy

During FY-71, a significant change was achieved in the NIPSSA education and training program. An education and training package was negotiated with CDC in conjunction with the contract for a CDC 6400 system. This provided a well-planned course of instruction in computer science disciplines for NIPSSA systems analysts, programmers, and computer operators. Contracted training totaled 77 instructor weeks, 35 of which were used in FY-71. The balance is scheduled throughout FY-72 and FY-73. A maximum of 16 students can be accommodated in each class and every effort is being made to schedule the full student complement in each session. In those instances where a full student complement is not available due to priority assignments, plans are being made to market the unused spaces to other agencies and activities within the intelligence community.

7. Air Force

The Air Force training of 402 students in information science was provided by the Armed Forces Air Intelligence Training Command (AFAITC), Lowry Air Force Base. Although the Air Force, through the

Air Training Command, is the executive agent for operating the AFAITC, the courses given there (see paragraph C. 9.) are reported under other government agencies.

8. Information Science Center (ISC)

Since 1 July 1970, the Information Science Center has presented two iterations of the "Functions" course, and one of the "Survey" course to a total of 56 students. The length of the "Survey" course has remained at three weeks and its content basically the same. The "Functions" course, on the other hand went to 11 and then 12 weeks in length with considerable restructuring. Additional detail may be found in IHC-AR-4, dated 1 July 1971.

9. Armed Forces Air Intelligence Training Center (AFAITC)

a. Mission and Program

The Armed Forces Air Intelligence Training Center (AFAITC) provided training for 1026 students in information science. The AFAITC program provides instruction for analysts, programmers, and computer operators on the various data management systems utilized in the IDHS community. During FY-71, these systems included Modular Data Systems (MODS) (formerly Small Scale Formatted File Systems), 1410 Mark III Formatted File System, and the 360 Formatted File System. Additionally, courses for the intelligence analysts (users) are presented to familiarize the analysts with the concepts and capabilities of the various intelligence data handling systems.

b. Mobile Teams

Fourteen courses were offered at the site of the user

organization by the mobile training teams of AFAITC. A total of 1009 students received instruction from the mobile training team effort.

c. Basic Air Intelligence Training Program

The utilization of "live" files from the field units has significantly enhanced the course curriculum taught at AFAITC. Introducing the student to the "real-life" environment greatly improves the learning process. Intelligence students are introduced to computer concepts as applied to intelligence functions during the first four blocks of instruction in the revised basic air intelligence course. Classroom instruction and practices are designed to familiarize the students with ADP fundamentals, computer programming techniques, and the various formatted file systems related to IDHS. Subsequent blocks of instruction insure that each student understands and applies automated techniques to simulate actual intelligence activities.

D. Hiring of Experienced Personnel

1. CIA

Recent change in the economy, shifts in the job market, and other influences have resulted in a substantial reduction in the hiring of programmers. During FY-71, CIA hired two experienced programmers, two people with degrees in information science, one person with a year or more of experience in information science, and 18 persons who had degrees in other fields requiring computer support.

2. NSA

At the same time that it became possible to hire college

graduates trained in computer science, austerity reduced the number that could be hired. Consequently, the intern program in data processing is relying principally on people already on board for its input. Attrition from the data processing components remains about one percent higher than for the Agency as a whole. Two-thirds of those leaving the data processing components were in GG-7 or below, which means a loss of skilled operators. NSA now has a training program for their replacements.

3. Navy

At the close of FY-71, 19 additional programming personnel had been hired. Ten of these newly acquired people had previous experience or training. In many cases past experience or training was not necessarily related to the NIPSSA installed systems, and minor retraining or additional training was required to acquaint them with installed hardware, but no basic computer training was necessary. Few new employees, however, are experienced in JOVIAL which is a NIPSSA standard so they receive training in this language as requirements dictate. NIPSSA has continued to maintain a high personnel retention rate. The turnover rate has been one of the lowest in the area and has allowed NIPSSA to maintain a sizeable staff of trained personnel.

4. Air Force

During FY-71, due to austere economic conditions, IDHS components were extremely selective in hiring experienced personnel at the grade scale authorized.

E. Education and Training Plans for FY-72

1. CIA

a. Proposed Training

The Training Staff, Office of Computer Services (OCS), proposes to add several courses to their program of instructions for programmers, analysts, and operators. Emphasis is being placed on the latter with two new courses for machine operators and operator trainees. In addition an operations management course will be offered for the first time. The Office of Economic Research (OER) training effort will continue at about the FY-71 level, with relatively more emphasis on methods of information retrieval and on techniques for estimating the parameters of economic models. During FY-72, the National Photographic Interpretation Center (NPIC), will place heavy emphasis on training provided through university courses.

b. Personnel Programmed for Information Science Training

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2. NSA

Proposed Training

Courses offered by the Information Science Center will be considered as part of the training of interns in information science and will also be useful to librarians and documentalists. A course contemplated for several years will probably be presented for the

first time: Cryptologic Research and Use of Intelligence Sources, projected as 120 hours. Of 26 classes in 18 courses to be offered after hours at NSA in the first half of FY-72, 15 classes and 8 courses are in computer science.

3. Department of State

a. Proposed Training

The Foreign Service Institute (FSI) plans to offer a two-week course (half-day sessions) in Political Analysis which will be given by Consolidated Analysis Center, Inc. (CACI) in May 1972 on a contract basis. This course will train employees on the use of computers in foreign policy with emphasis on simulation and models in international relations. The Quantitative Methodology course offered once last year will again be offered in FY-72. This course is being revised and will be using materials on foreign affairs only instead of political science in general. The Computers and Foreign Affairs course offered four times in FY-71 will again be offered four times in FY-72. FSI has allocated $85,000 for information science training for FY-72.

b. Personnel Programmed for Information Science Training

Full-time university training	3
Part-time university training	50
Own Agency	80
Other Government Agencies	90
Manufacturers, Contractors, and Professional Societies	90

4. DIA

Proposed Training

Full-time university training 5

5. Navy

a. Proposed Training

Budget cuts and increased operational requirements have combined to force a drastic reduction in the amount of financial support that NIPSSA can now provide for voluntary after-hours education programs. Consequently this program will be substantially curtailed in FY-72 in favor of Command-sponsored training provided by CDC Corporation. The CDC training of 42 instructor weeks remaining in FY-72 and FY-73 equates to 672 student weeks which will offset the loss of part-time university training. The requirement to indoctrinate and train other personnel in data processing and associated areas can be met, in most cases, through participation in one of the many programs conducted by the DoD Computer Institute (DODCI), or by taking advantage of no-cost or low-cost training offered by other federal agencies or commercial vendors.

6. Air Force

a. Proposed Training

Proposed Air Force training is discussed under AFAITC (see paragraph E. 7.).

b. Personnel Programmed for Information Science Training

Full-time university training	8
Part-time university training	No Estimate
Other Government Agencies	450

7. Armed Forces Air Intelligence Training Center (AFAITC)

a. Proposed Training

During FY-72 the Air Force, through AFAITC, will train personnel in the DIA-developed Machine Independent Data Management System (MIDMS). AFAITC has developed three courses to support this requirement: MIDMS Concepts/Capabilities - 24 hours; MIDMS Operations/Specifications - 90 hours; and MIDMS Teleprocessing - 30 hours. Training will commence during the third quarter of FY-72. Initial instruction for MIDMS will be presented at the site of the user by the mobile training teams. With the full implementation of MODS and Sentinel Automated Intelligence Display and Exploitation System (AIDES), the Basic Air Intelligence training course will be revised to integrate the use of on-line display stations. Use of these terminals will enable the students to work directly with information required to accomplish practical problem exercises. AFAITC has allocated $1,123,000 for information science training (this budget supports IDHS training for the entire DoD) and $223,000 for the AFIT Graduate Level Information Science Program for Intelligence (this sum is approximate due to the 40 to 50 percent increase in tuition fees levied by civilian education institutions during FY-72).

b. Personnel Programmed for Information Science Training

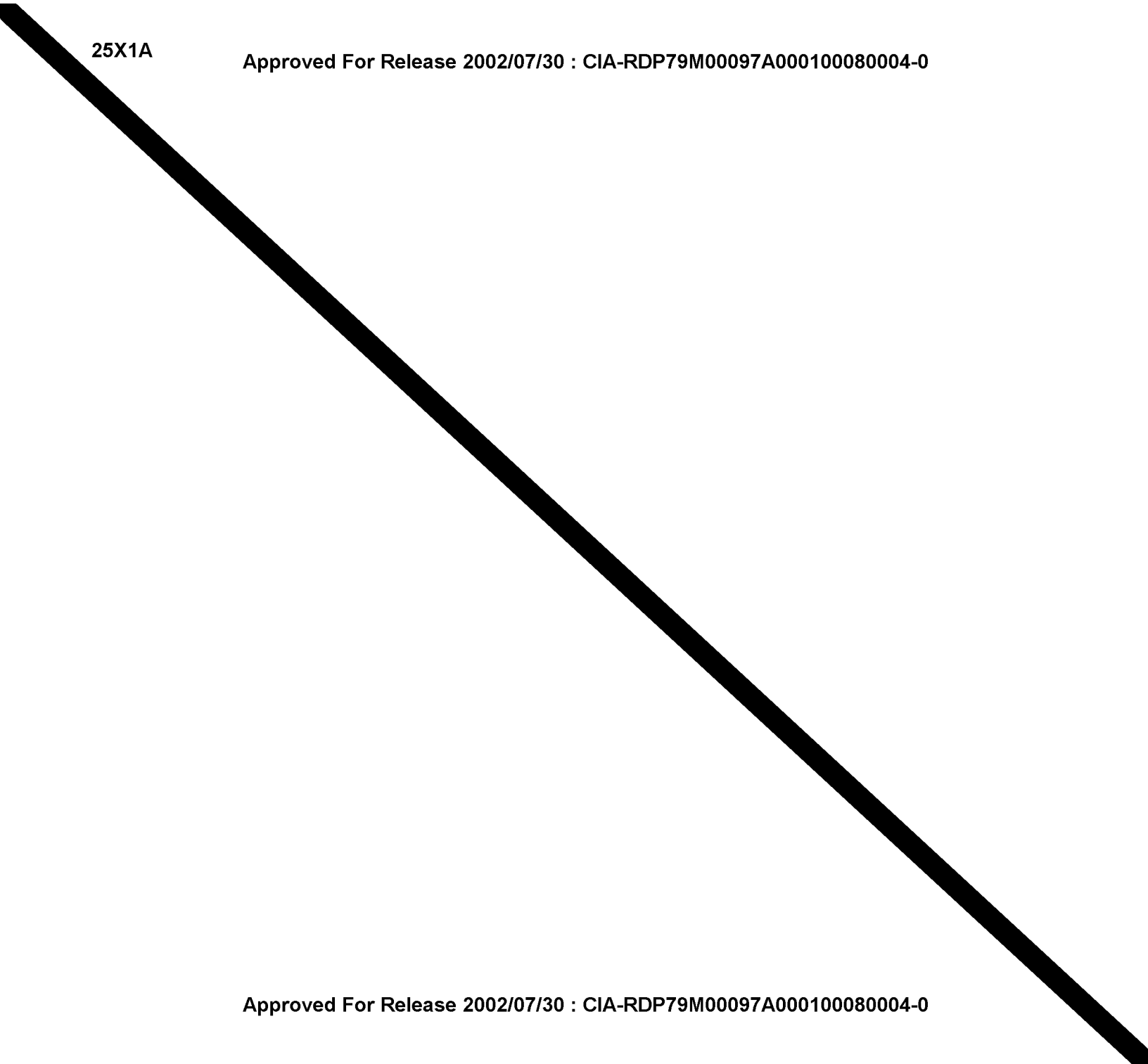
During FY-72, the following organizations will send personnel to AFAITC for training in Air Intelligence.

Air Force	1096
Navy	600
Air National Guard	124
Air Force Reserve	51
Foreign Governments	8

In addition, 450 Air Force students will be trained in current IDHS Data Management Systems.

8. COINS Training

Current DIA plans call for training of CONAD personnel (July 1971), NSA personnel (summer of 1971), and FICPAC personnel (fall of 1971), in the use of the COINS System. As other organizations tie into the COINS network, DIA will provide training as required.



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